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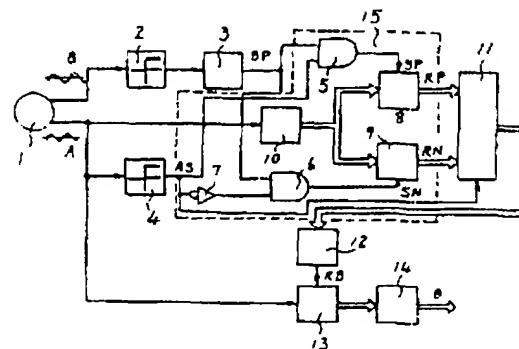
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APPLICANT : HITACHI LTD;

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TITLE : PHASE DETECTOR



ABSTRACT : PURPOSE: To exactly detect a phase angle even if an encoder output voltage fluctuates by holding the other output and detecting the phase when one of two phases of sine wave outputs from the encoder is made zero.

CONSTITUTION: The A phase and B phase sine wave signals of the frequencies proportional to rotations and the phases varying by 90° are outputted from the encoder 1 and are processed by a comparator 2 and a pulse generating circuit 3. A pulse is outputted from the circuit 3 and is supplied to AND gates 5, 6 of a peak value holding circuit 15 at the point of the time when the B phase signal is zero. The signal AS of which the A phase attains an H at the just time from a comparator 4 and the signal AS via an inverter 7 are supplied to the gates 5, 6, respectively. The positive and negative peak values through an A/D converter 10 of the A phase are held in respective registers 8, 9 controlled by the gates 5, 6. The phase angle is exactly detected by the A phase signal applied to an A/D converter 13 with the peak output past a selector circuit 11 and a D/A converter 12 as a reference value via a memory 14 which stores an inverse sine wave function table even if the encoder output voltage is fluctuated by temp., source voltage, deterioration with age, rotating ripple, etc.

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